SCORPION USER MANUAL

C3–SCORPION

Context-based features, **3**-states,
Secondar**y** Structure **P**redict**ion**

Old Dominion University

CS411 Blue Team

Fall 2014

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1. Introduction (David)

The Fall 2014 CS411 Blue team, “STING”, has worked with Dr. Yaohang Li to design and build a new look with additional functionality for the SCORPION website at Old Dominion University. This product includes a complete redesign of the website layout, full 508 compliancy, user login functionality with a self hosted database that integrates with Google logins, and a RESTful API for programmatic access to the SCORPION neural network. Detailed in the following sections are directions for using the website and RESTful API.

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2. Logins (David)

In order to log into the Scorpion Website, a Google Gmail account is needed. This can be created through the login process.

Creating a Gmail account

1) Click the Login link at the top right corner of the homepage

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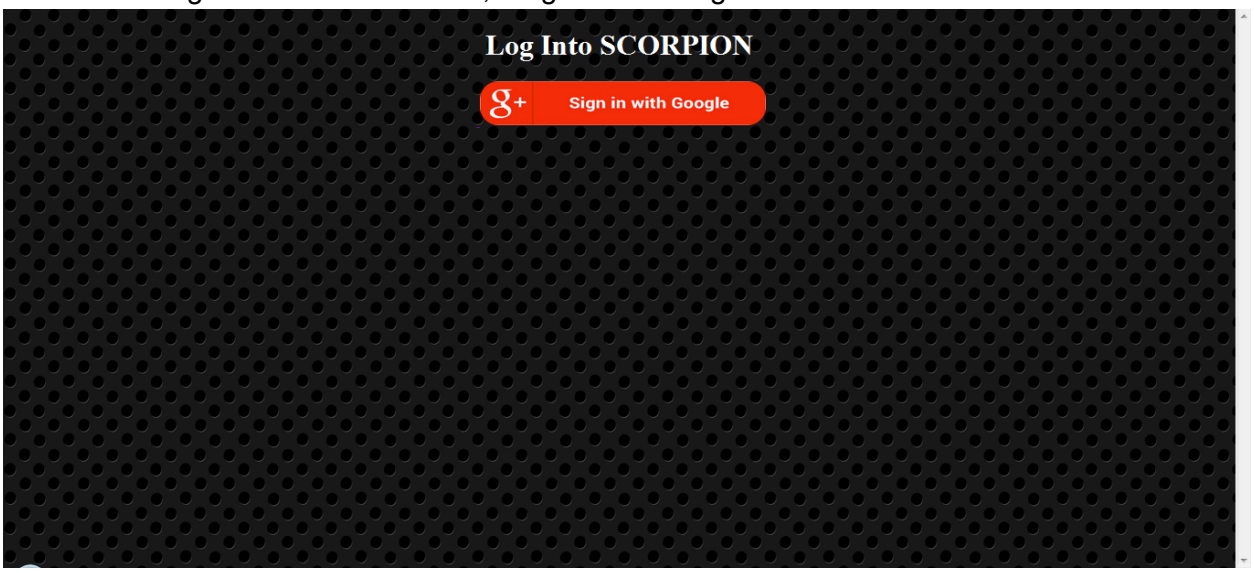
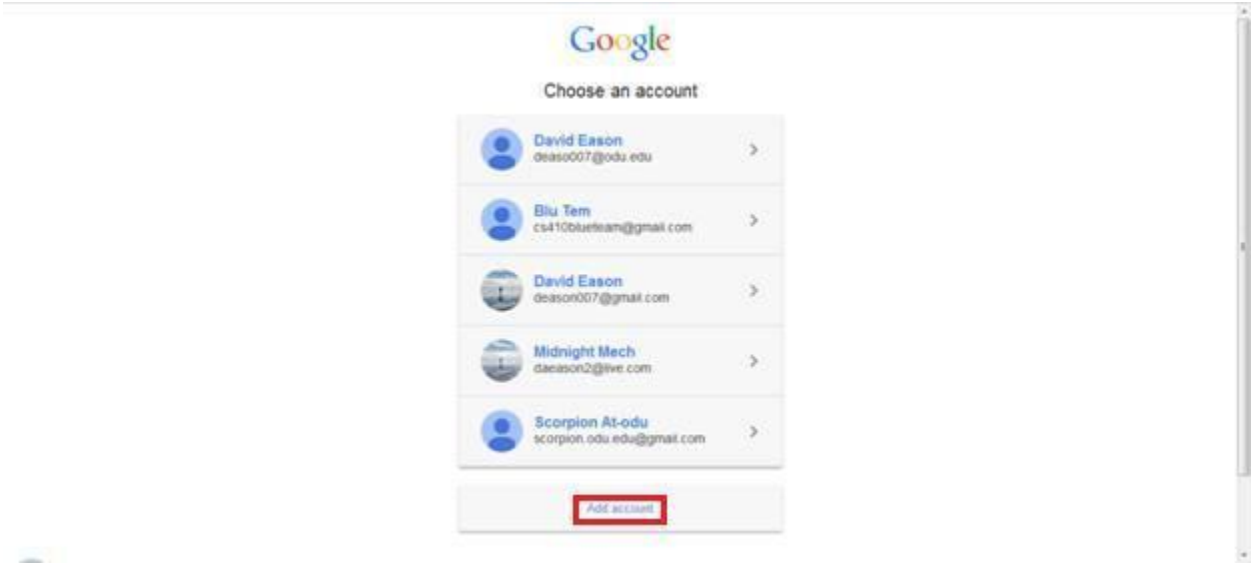
Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
Clear Form
Submit Sequence
Input your target sequence in fasta format, a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

2) Click on the big red button that reads, “Login With Google”



3) On the Google Account Chooser page, click “Add account”



4) Click, “Create an account”

Logging in as a standard user

1) Click the Login link at the top right corner of the homepage

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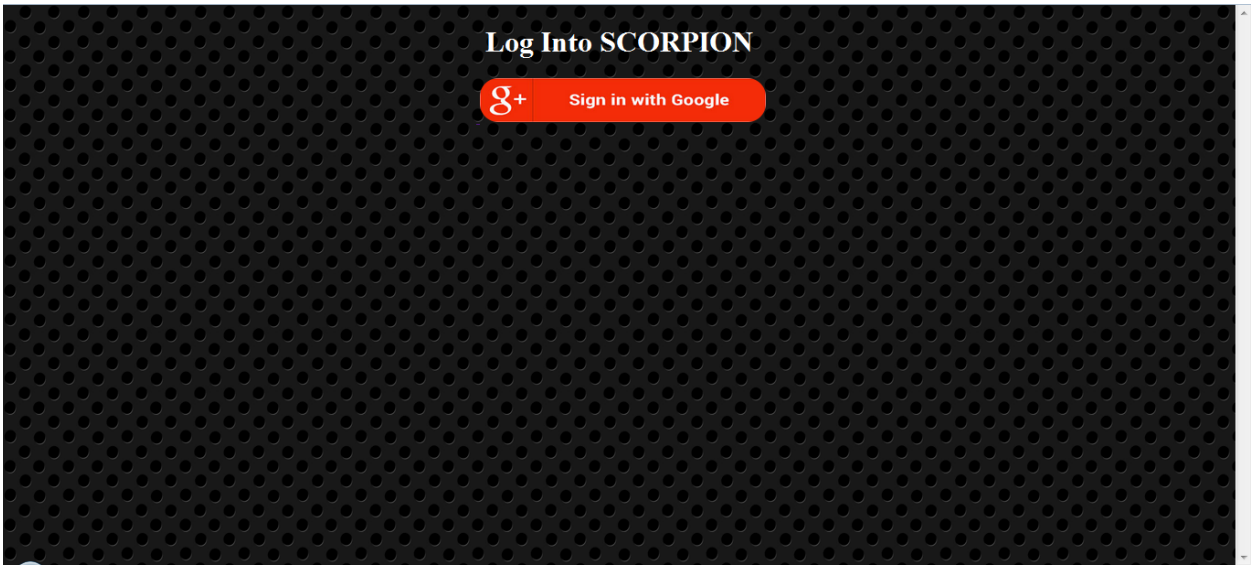
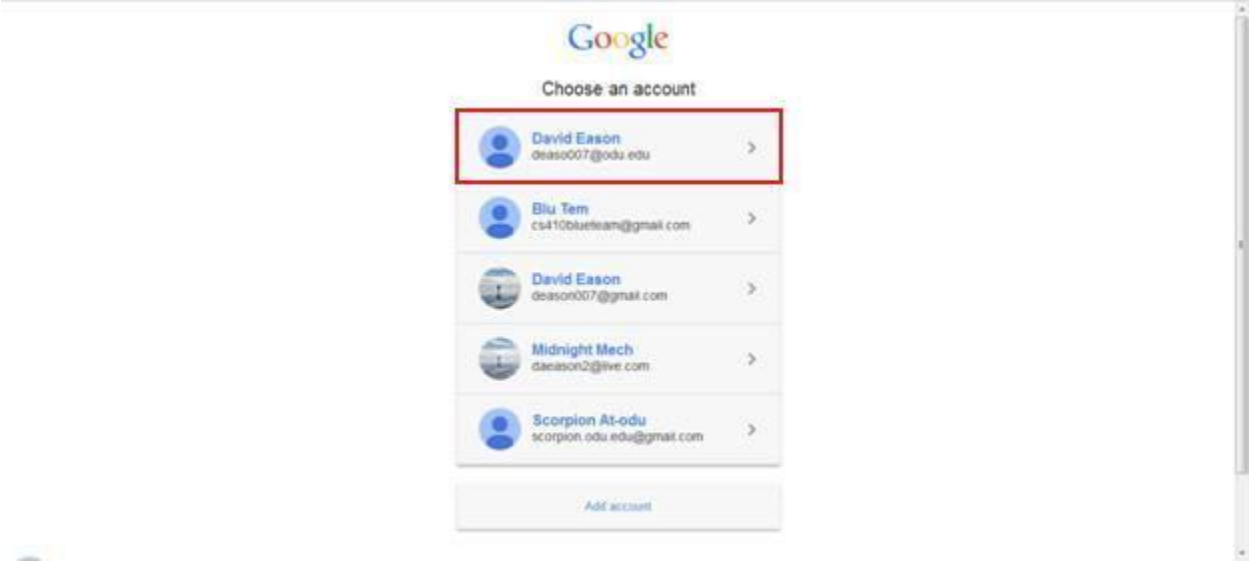
Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

2) Click on the big red button that reads, “Login With Google”



3) On the Google Account Chooser page, choose an account (Non Administrative)



4) Once selected, the browser will redirect to the homepage which will display:
   a) A welcome message with the user's email
   b) The user's email in the sequence submission form
   c) Navigation links to the user's profile and submission history

Welcome deaso007@odu.edu
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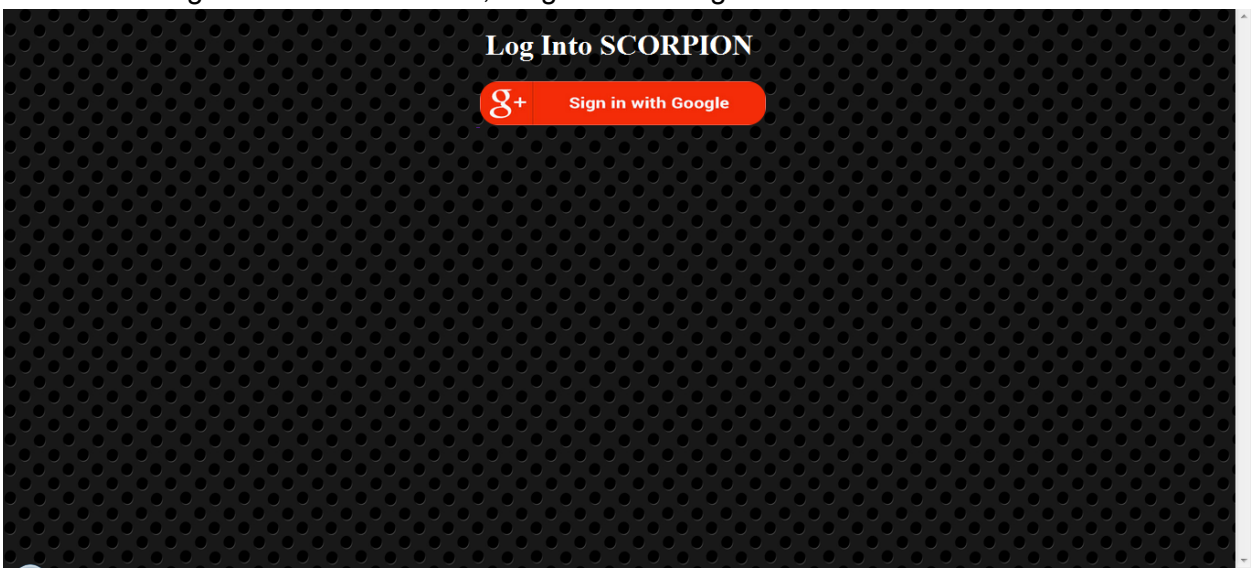
Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
deaso007@odu.edu
Clear Form
Submit Sequence
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

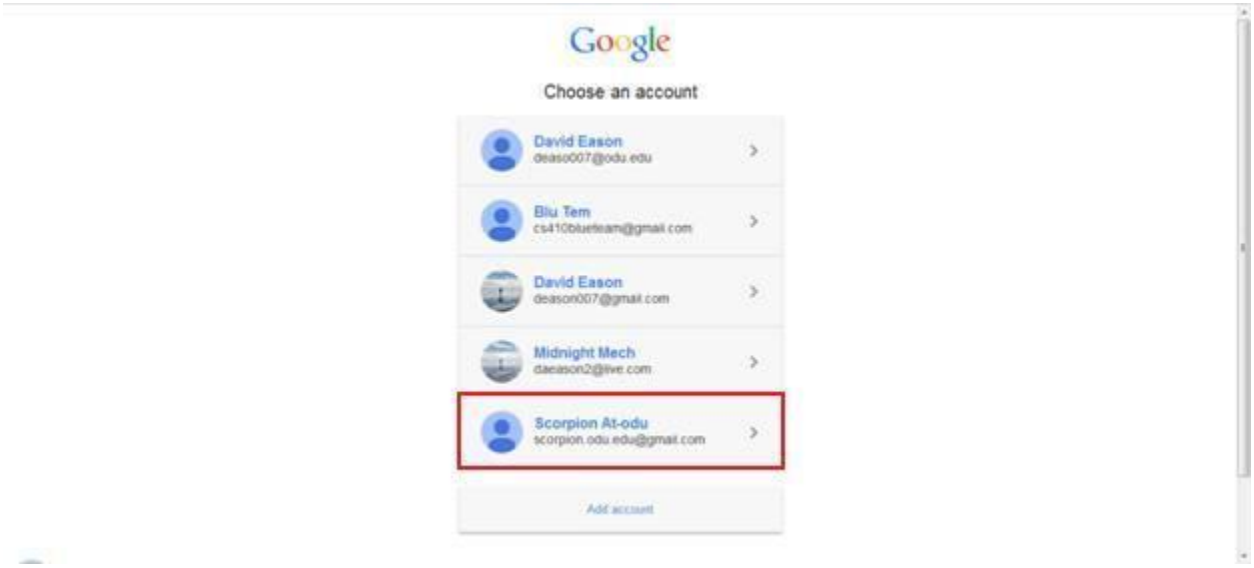
Logging in as an Administrator

1) Click the Login link at the top right corner of the homepage

2) Click on the big red button that reads, “Login With Google”



3) Using the credentials provided, log in using the default Administrator account, “Scorpion.odu.edu@gmail.com



4) Once selected, the browser will redirect to the homepage which will display:
   a) A welcome message with the user’s email
   b) The user’s email in the sequence submission form
   c) Navigation links to the user’s profile and submission history
   d) Administrative links for viewing user data and website analytics

Welcome scorpion.odu.edu@gmail.com
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Query Title
Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
scorpion.odu.edu@gmail.com
Input your target sequence in fasta format, a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

Logging Out

1) Once logged in, click the “Logout” link at the top right corner of any webpage

Welcome deaso007@odu.edu
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Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
deasc007@odu.edu
Clear Form
Submit Sequence
Input your target sequence in fasta format, a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

2) The browser will be redirected to the homepage

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Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Clear Form
Submit Sequence
Input your target sequence in fasta format, a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

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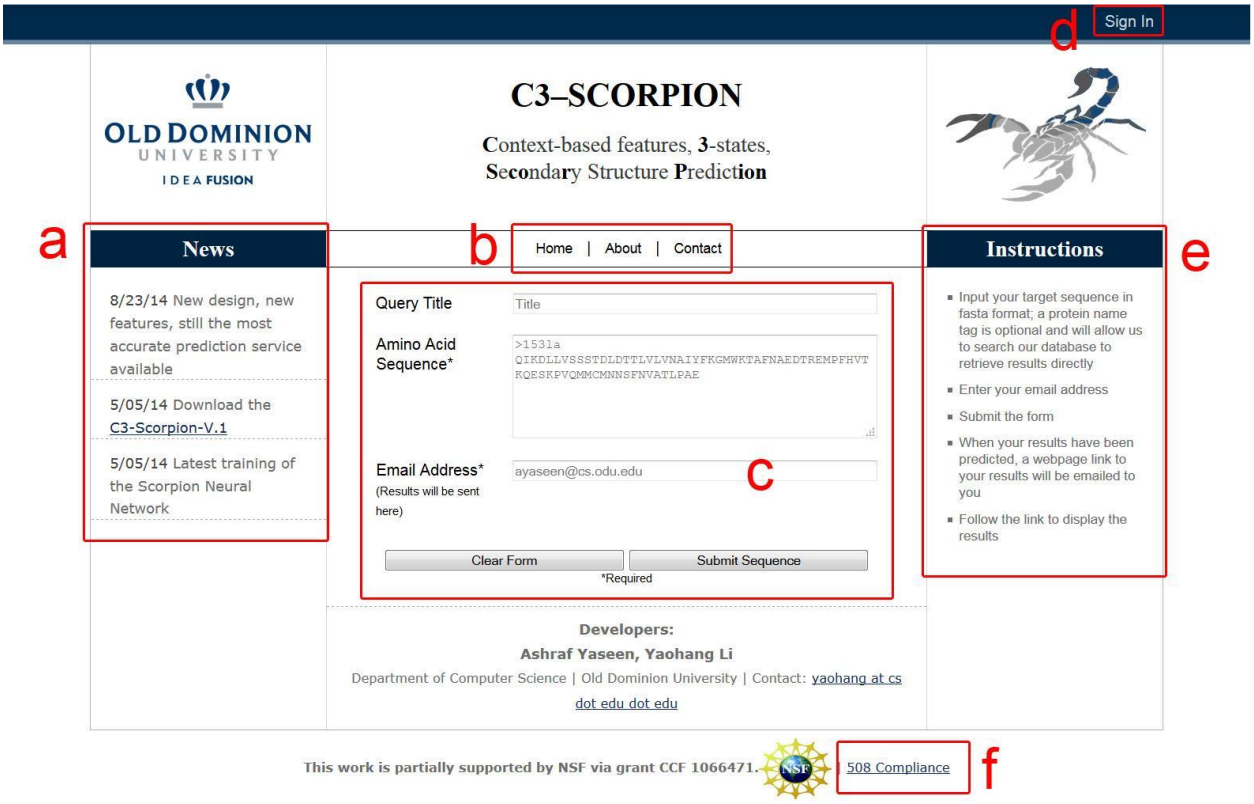
3. Home (Jasmine)

Homepage features

Upon visiting the home webpage, the following features will be displayed:

a) News column - provides updates regarding Scorpion
b) Navigation bar:
    1. About link - opens webpage with detailed information about Scorpion
    2. Contact link - opens webpage with contact information of Scorpion's creators, Dr. Ashraf Yaseen and Dr. Yaohang Li
c) Protein sequence submission form - provides the ability to submit a protein sequence
d) Instructions column - provides instructions to use the protein sequence submission form
e) Sign in link - provides the ability to sign into STING
f) 508 compliance link - opens a PDF with AChecker validation of no known 508 compliance errors


Sign In
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b
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Query Title
Title
Amino Acid Sequence*
>1531a
QIKDLLVSSSTDLDTTLVLVNAIYFKGMWKTAFNAEDTREMPFHVT
KQESKPVQMMCMNNSFNVATLPAE
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
c
Clear Form
Submit Sequence
*Required
Instructions
e
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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f

Skip to main content

If you are using a screen reader and would like to skip to the main content of the page, complete the following steps:

1. Hit the “Tab” key on your keyboard until the “Skip to main content link” appears
2. Hit the “Enter” key on your keyboard.

Your screen reader will be directed to the main content of the page. In the homepage example, your screen reader would be directed to the protein sequence submission form.

Skip to main content
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Query Title
Title
Amino Acid Sequence*
>1531a
QIKDLLVSSSTDLDTTLVLVNAIYFKGMWKTAFNAEDTREMPFHVT
KQESKPVQMMCMNNSFNVATLPAE
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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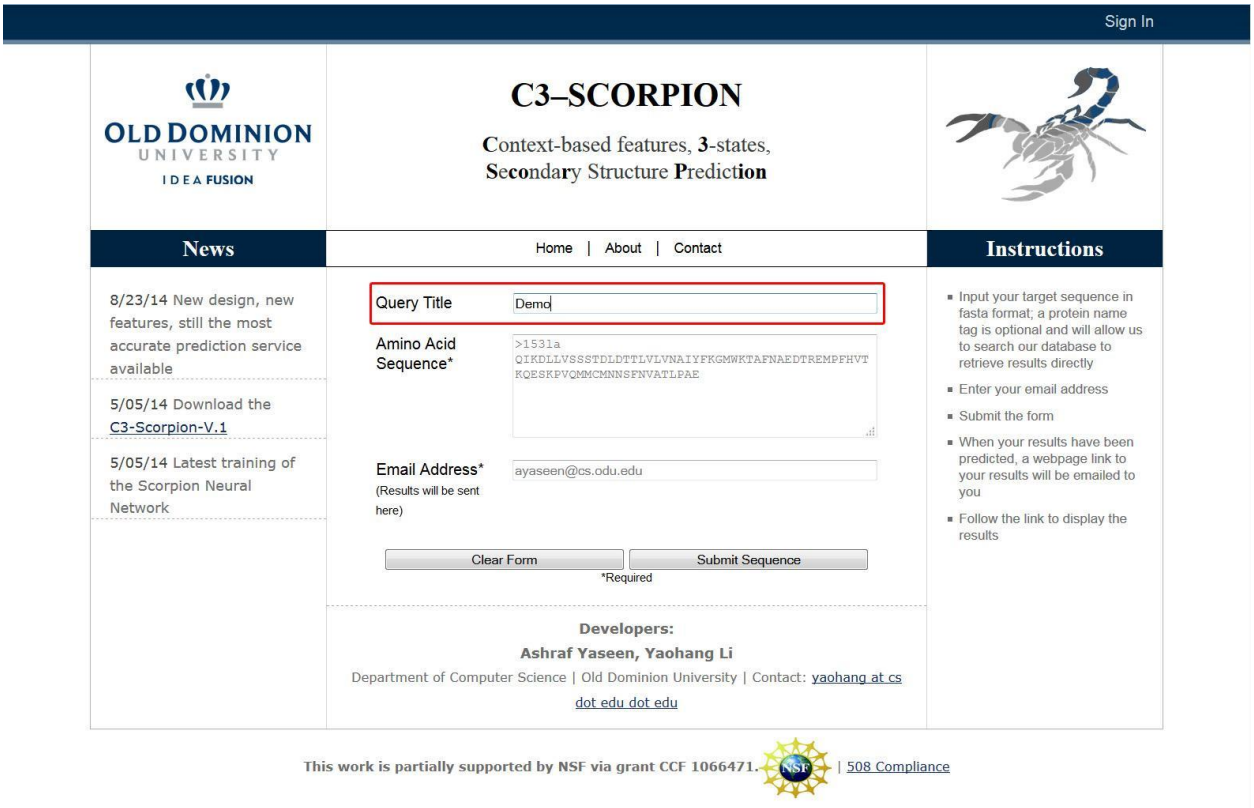
Submit a protein sequence

To submit a protein sequence, use the protein sequence submission form to complete the following steps:

1. Optional: Enter a query title: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Query Title
Demo
Amino Acid Sequence*
>1531a
QIKDLLVSSSTDLDTTLVLVNAIYFKGMWKTAFNAEDTREMPFHVT
KQESKPVQMMCMNNSFNVATLPAE
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
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2. Optional: Enter a sequence title:
   Begin the sequence title with a greater-than-sign “>”
   End the sequence title by hitting the “Enter” key on your keyboard

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Query Title
Demo
Amino Acid Sequence*
>Sequence_A1
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
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3. Required: Enter (or copy and paste) an amino acid sequence:
   The sequence should be at least 40 residues in length
   All alphabetical characters are valid residues excluding:
   B, J, O, U, X, Z

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Query Title
Demo
Amino Acid Sequence*
>Sequence_A1
ACDEFGHIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFG
HIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFGHIKLMN
PQRSTVWY
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
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Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
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4. Required: Enter a valid email address:

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Query Title
Demo
Amino Acid Sequence*
>Sequence_A1
ACDEFGHIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFG
HIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFGHIKLMN
PQRSTVWY
Email Address*
(Results will be sent here)
jjone191@odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
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5. Optional: If you have made any errors and would like to start over, you can clear all input fields of the form by clicking the “Clear Form” button:

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Query Title
Demo
Amino Acid Sequence*
>Sequence_A1
ACDEFGHIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFG
HIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFGHIKLMN
PQRSTVWY
Email Address*
(Results will be sent here)
jjone191@odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
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6. Click the “Submit Sequence” button to submit your form information to STING

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Query Title
Demo
Amino Acid Sequence*
>Sequence_A1
ACDEFGHIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFG
HIKLMNPQRSTVWYACDEFGHIKLMNPQRSTVWYACDEFGHIKLMN
PQRSTVWY
Email Address*
(Results will be sent here)
jjone191@odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
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Amino acid sequence sanitation

When entering your amino acid sequence into the protein sequence submission form, you will have the option to utilize amino acid sequence sanitation.

Amino acid sequence sanitation enables automatic removal of: whitespace, invalid alphabetical characters, and non-alphabetical characters. To utilize amino acid sequence sanitation, complete the following steps using the amino acid input field of the protein sequence submission form:

1. Enter (or copy and paste) a sequence containing whitespace and/or invalid alphabetical characters and/or non-alphabetical characters

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Query Title
Title
Amino Acid Sequence*
>sequence number 1
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
Developers:
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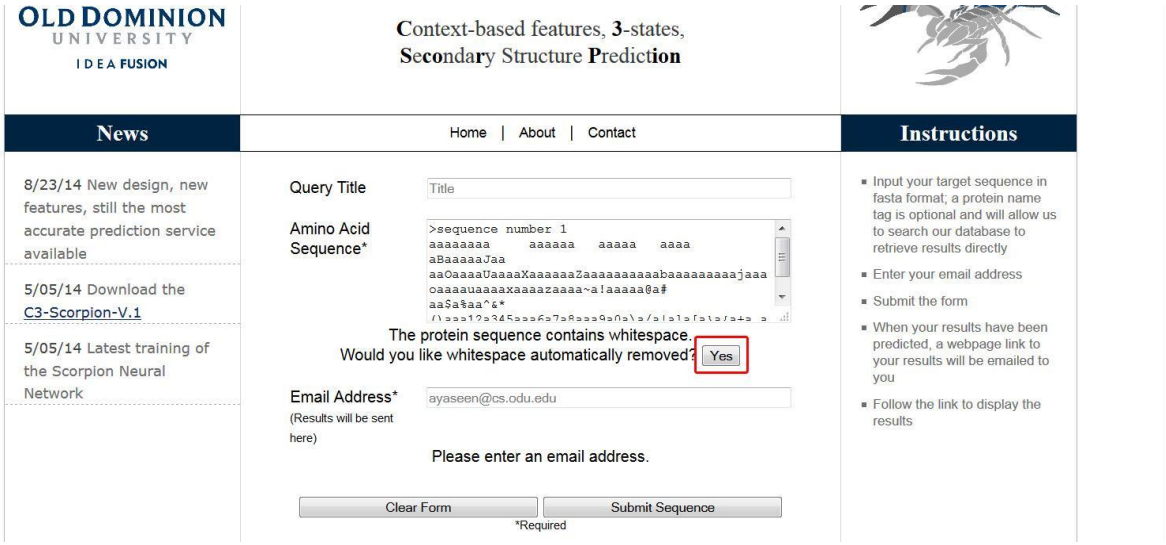
2. Click the “Submit Sequence Button”
   An error message will appear informing you that the sequence contains whitespace and will ask if you would like it automatically removed.
3. Click the button that says “Yes” to automatically removing whitespace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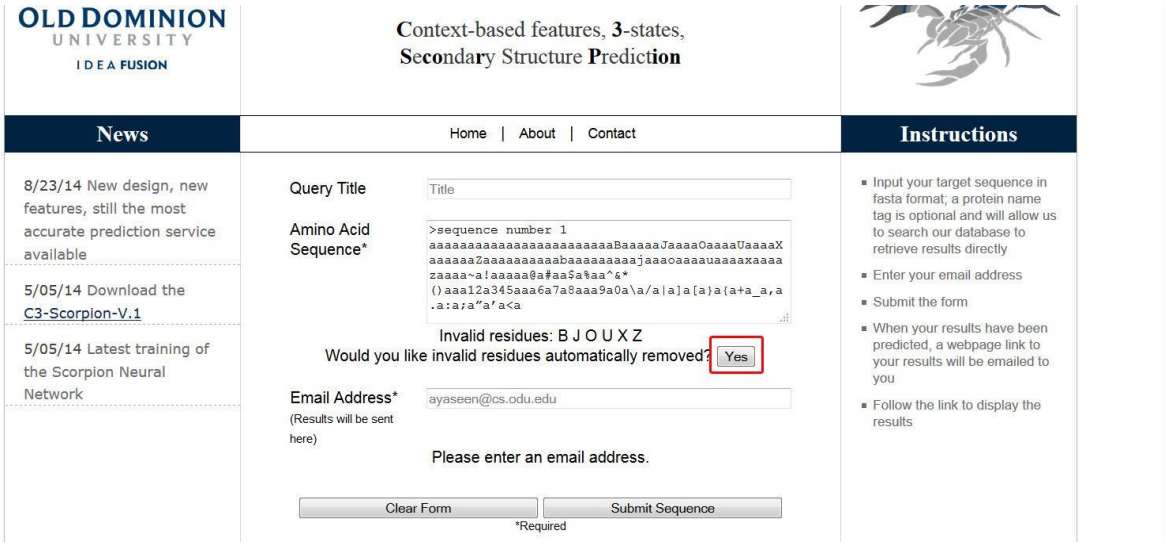
Query Title
Title
Amino Acid Sequence*
>sequence number 1
The protein sequence contains whitespace.
Would you like whitespace automatically removed?
Yes
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Please enter an email address.
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

Whitespace will be automatically removed from your sequence. A new error message will appear listing any invalid residues that are contained in your sequence. The message will ask if you would like invalid residues automatically removed.

4. Click the button that says “Yes” to automatically removing invalid residues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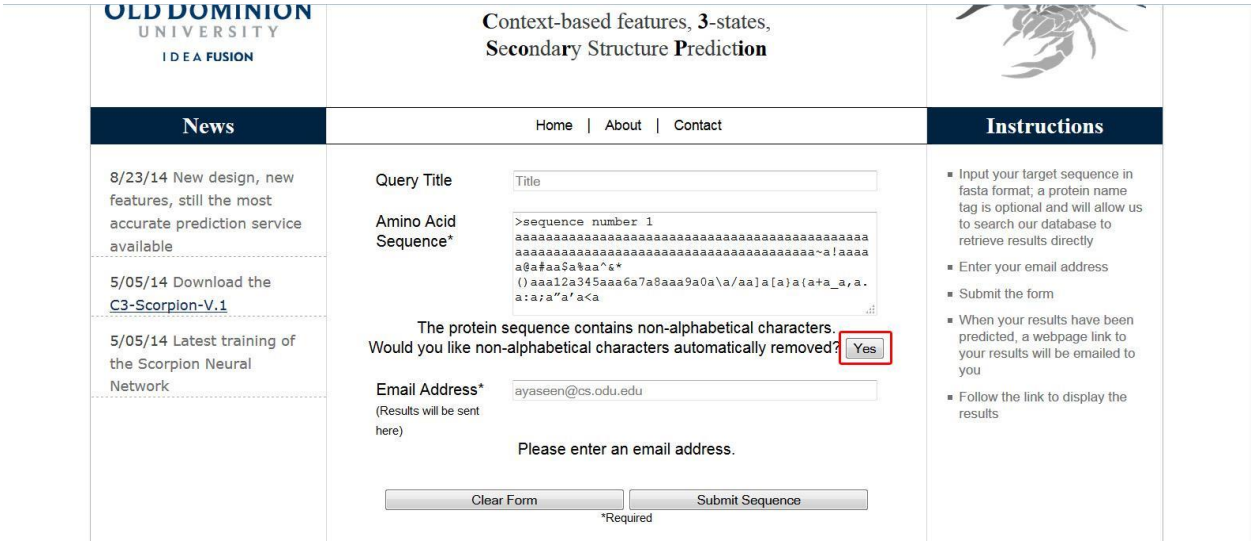
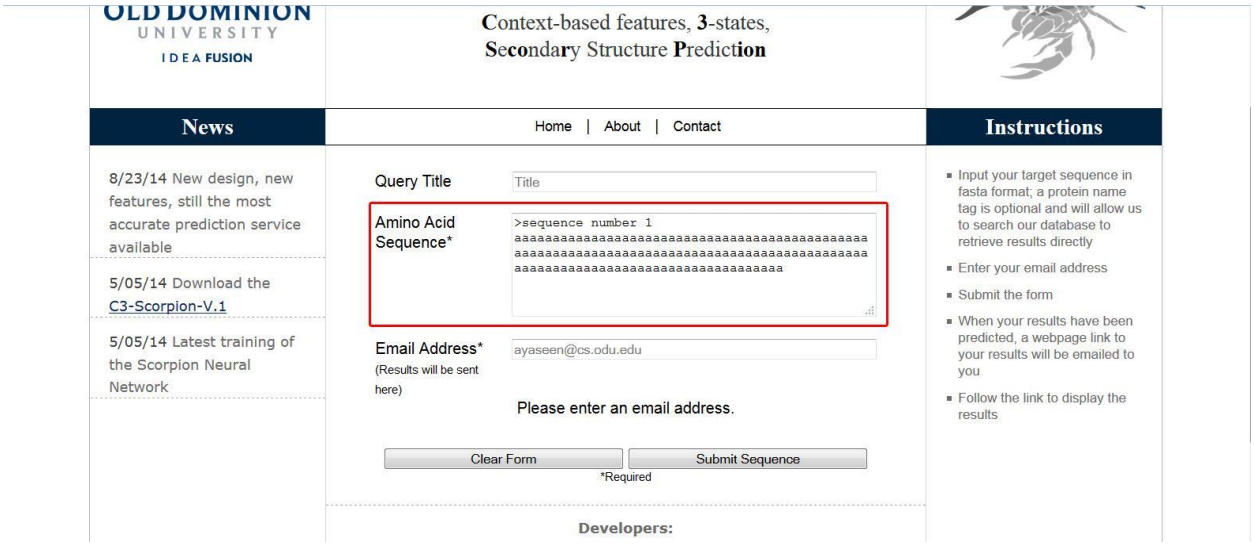
Query Title
Title
Amino Acid Sequence*
>sequence number 1
Invalid residues: B J O U X Z
Would you like invalid residues automatically removed?
Yes
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Please enter an email address.
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

Invalid residues will be automatically removed from your sequence. A new error message will appear informing you that your sequence contains non-alphabetical characters and will ask you if you would like non-alphabetical characters automatically removed.

5. Click the button that says “Yes” to automatically removing non-alphabetical characters


OLD DOMINION UNIVERSITY
IDEA FUSION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Title
Amino Acid Sequence*
>sequence number 1
The protein sequence contains non-alphabetical characters.
Would you like non-alphabetical characters automatically removed?
Yes
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Please enter an email address.
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

Non-alphabetical characters will be automatically removed from your sequence. The remaining sequence will be a valid sequence to submit to STING.


OLD DOMINION UNIVERSITY
IDEA FUSION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Title
Amino Acid Sequence*
>sequence number 1
Email Address*
(Results will be sent here)
ayaseen@cs.odu.edu
Please enter an email address.
Clear Form
Submit Sequence
*Required
Developers:
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

(This area was intentionally left blank)

Thank you webpage

After you have submitted a protein sequence, you will be directed to a thank you webpage which will display the following:

1. An estimate of the duration time you should expect before you receive your prediction results
2. The email address to which results will be sent

Sign In
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
Home | About | Contact
Thank you!
Your estimated prediction time is: 1 minute 40 seconds
Your results will be emailed to: jjone191@odu.edu
Please check your email after the duration of your estimated prediction time.
Please Click here to return to the protein sequence submission form.
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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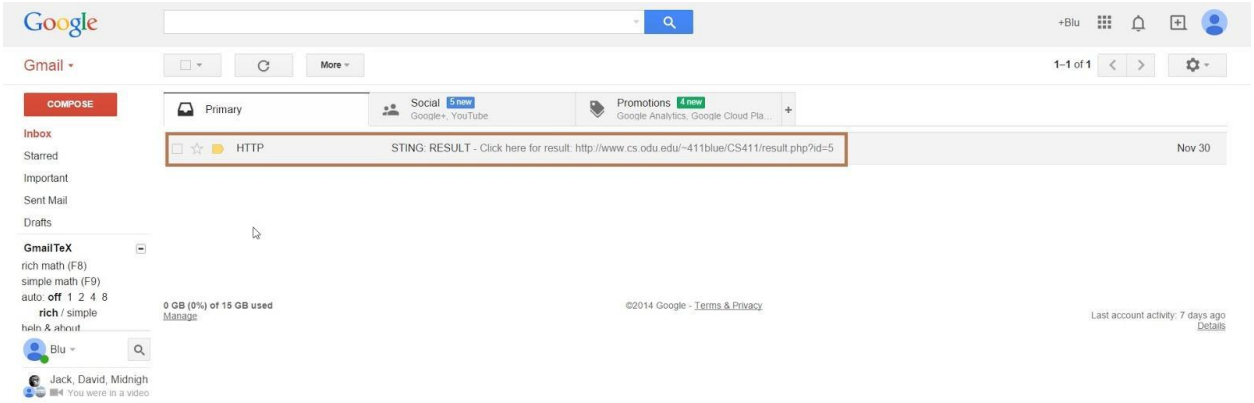
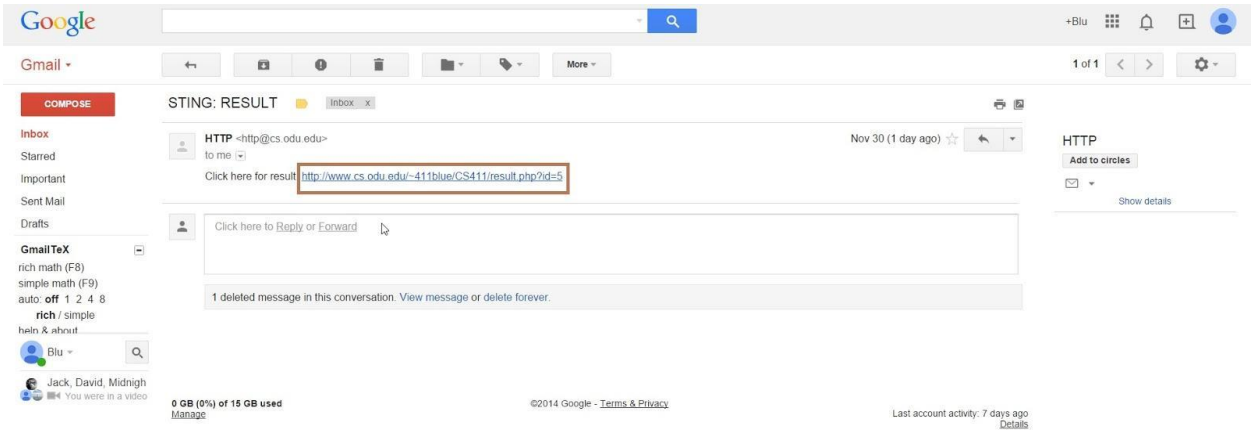
4. Results(Jack)

Obtaining a result from email

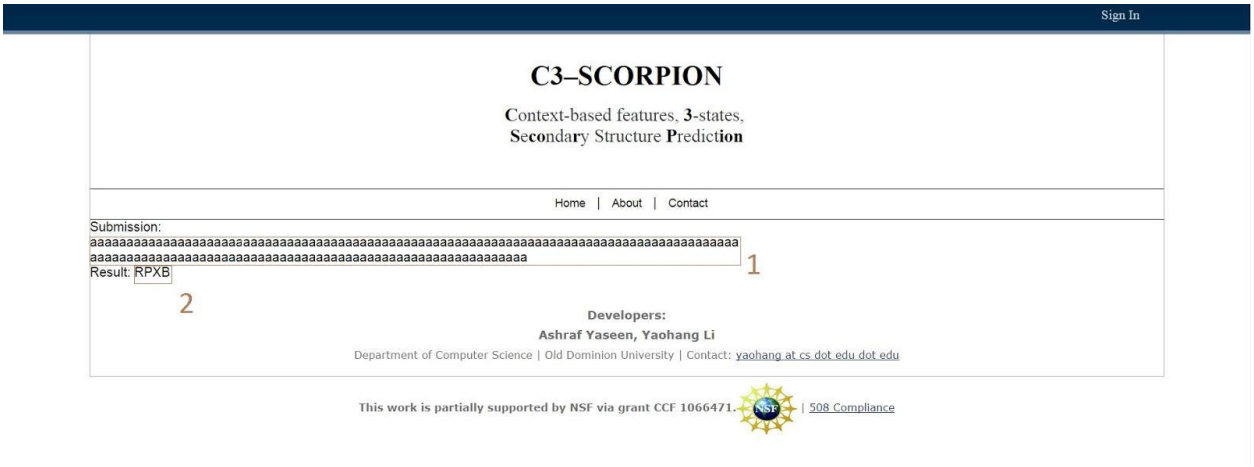
After sequence is submitted a user will receive an email. Below gmail is shown but any email service will work.



Opening the email will display the message below and a link that will navigate to the result page.



The result page shows both the Submitted amino sequence(1) and the secondary prediction sequence(2)


Sign In
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
Home | About | Contact
Submission:
aaaa

5. History(Jack)

Accessing the history page

To access the history the user must first be logged in. A logged in user will see the history link below. Clicking it will navigate to the history page.

Welcome jackmuratore@gmail.com
Profile
History
Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Title
Amino Acid Sequence*
>1531a
QIKDLLVSSSTDLDTTLVLVNAIYFKGMWKTAFNAEDTREMPFHVTKQESKPVQMMCMNN
SFNVATLPAE
Email Address*
(Results will be sent here)
jackmuratore@gmail.com
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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Navigating the history page

The history page shows a list of results. A user can click on any of these results to navigate to the the result page for that specific sequence.

www.cs.odu.edu/~411blue/CS411/history.php

Filtering the history page

Filtering can be done by entering in the sequence title into the search box. Unmatched sequences will vanishing leaving the desired result. This is shown below.

(This area was intentionally left blank)

6. User Information(JACK)

Accessing the user profile page

A logged in user has access to the profile page. The link will be shown in the top right hand corner. Clicking on the link will navigate to the profile page.

Welcome jackmuratore@gmail.com
Profile | History | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Title
Amino Acid Sequence*
>1531a
QIKDLLVSSSTDLDTTLVLVNAIYFKGMWKTAFNAEDTREMPFHVTKQESKPVQMMCMNN
SFNVATLPAE
Email Address*
(Results will be sent here)
jackmuratore@gmail.com
Clear Form
Submit Sequence
*Required
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your email address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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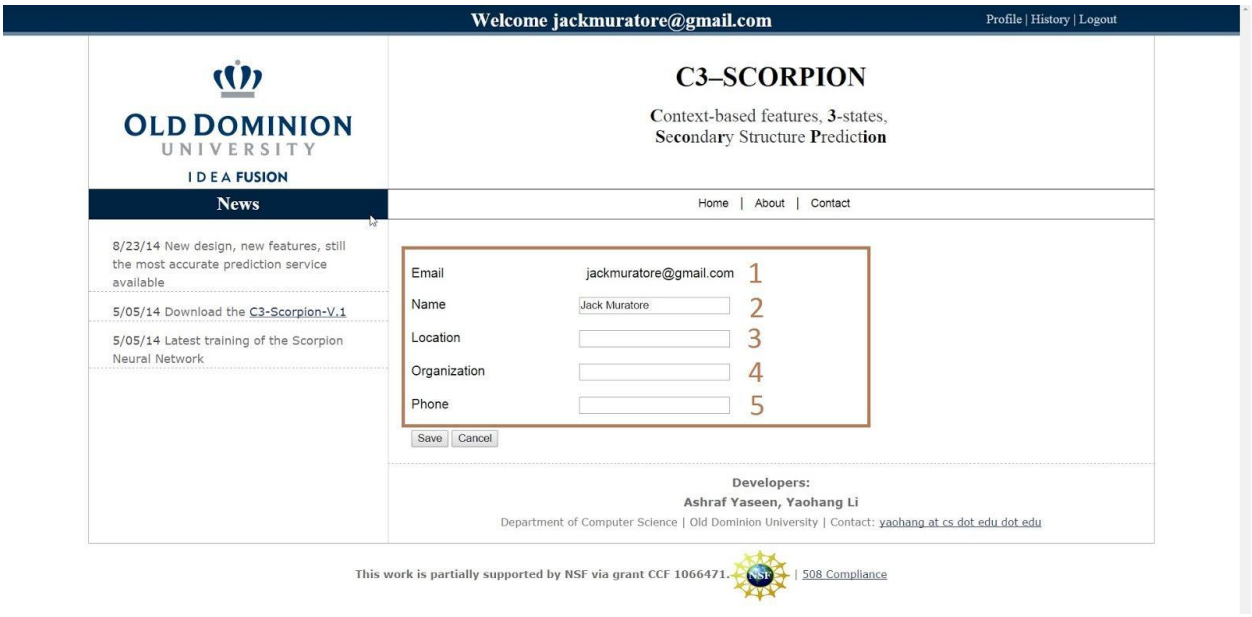
The profile page will list optional information that the user can fill out. Filling out this information will help improve SCORPION. The email(1) label is not changeable and will display the current logged in email. Name(2), Location(3), Organization(4) and Phone(5) can be changed or be left blank. Profile information previously entered will be displayed as it is below concerning the user's Name(2).


Welcome jackmuratore@gmail.com
Profile | History | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Email jackmuratore@gmail.com 1
Name Jack Muratore 2
Location 3
Organization 4
Phone 5
Save Cancel
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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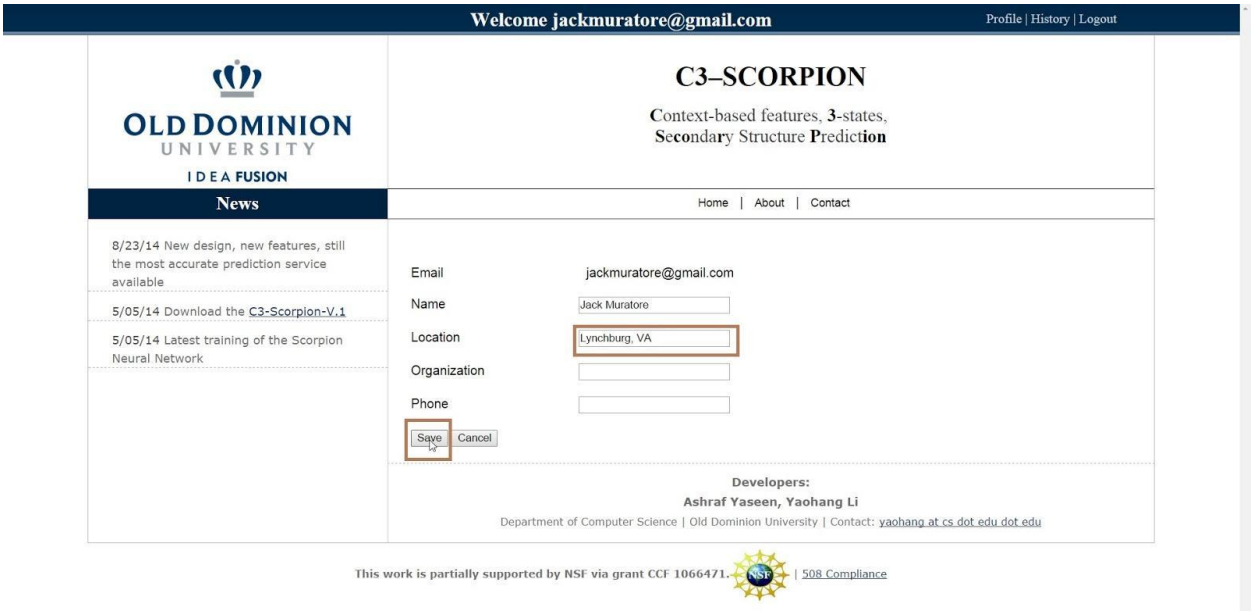
Changing profile information

To change information the user just enters the new information on the field. Below is an example of changing the Location. After ther user changes the field pressing Save will store the information and show a confirmation dialog.


Welcome jackmuratore@gmail.com
Profile | History | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Email jackmuratore@gmail.com
Name Jack Muratore
Location Lynchburg, VA
Organization
Phone
Save Cancel
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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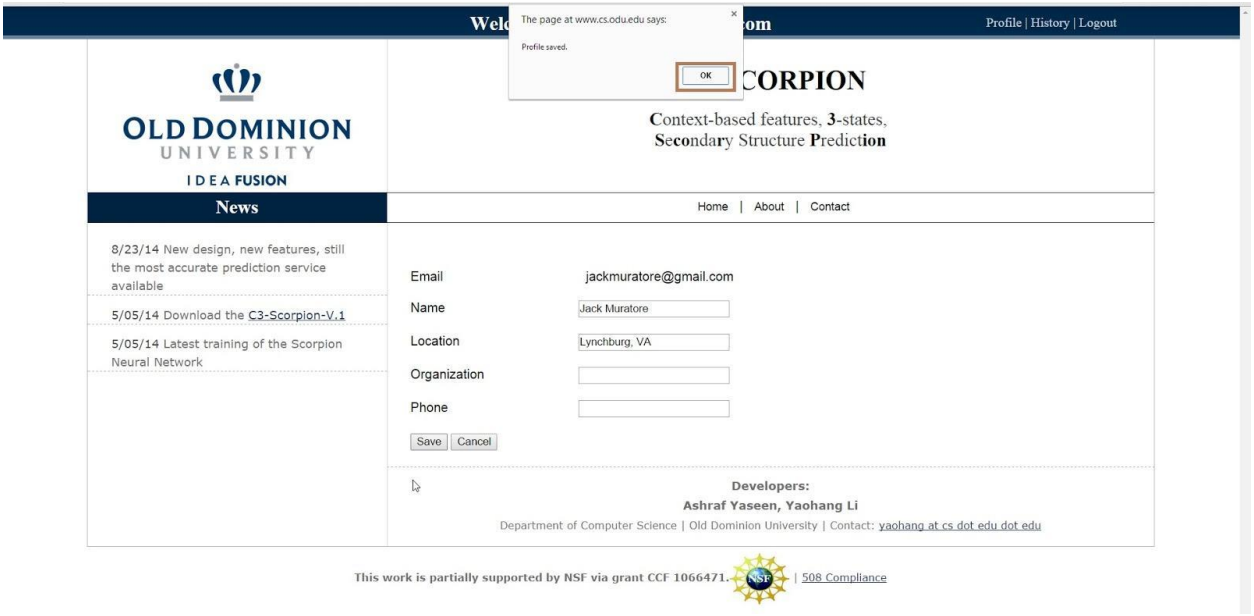
Below is the confirmation dialog after saving. Clicking okay will finish the history change.


The page at www.cs.odu.edu says:
Profile saved.
OK
Profile | History | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Email jackmuratore@gmail.com
Name Jack Muratore
Location Lynchburg, VA
Organization
Phone
Save Cancel
Developers:
Ashraf Yaseen, Yaohang Li
Department of Computer Science | Old Dominion University | Contact: yaohang at cs dot edu dot edu
This work is partially supported by NSF via grant CCF 1066471.
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7. Administrator Tools(David)

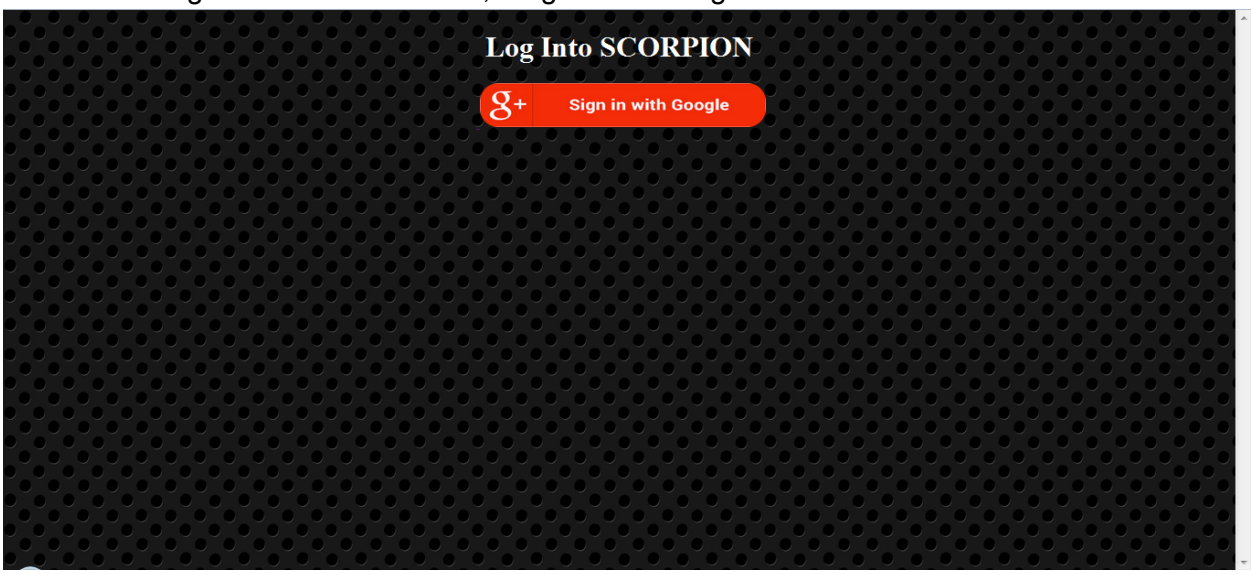
In order to view Administrator Tools, the user must have access to the administrator Gmail account, “Scorpion.odu.edu@gmail.com”

Viewing User Information

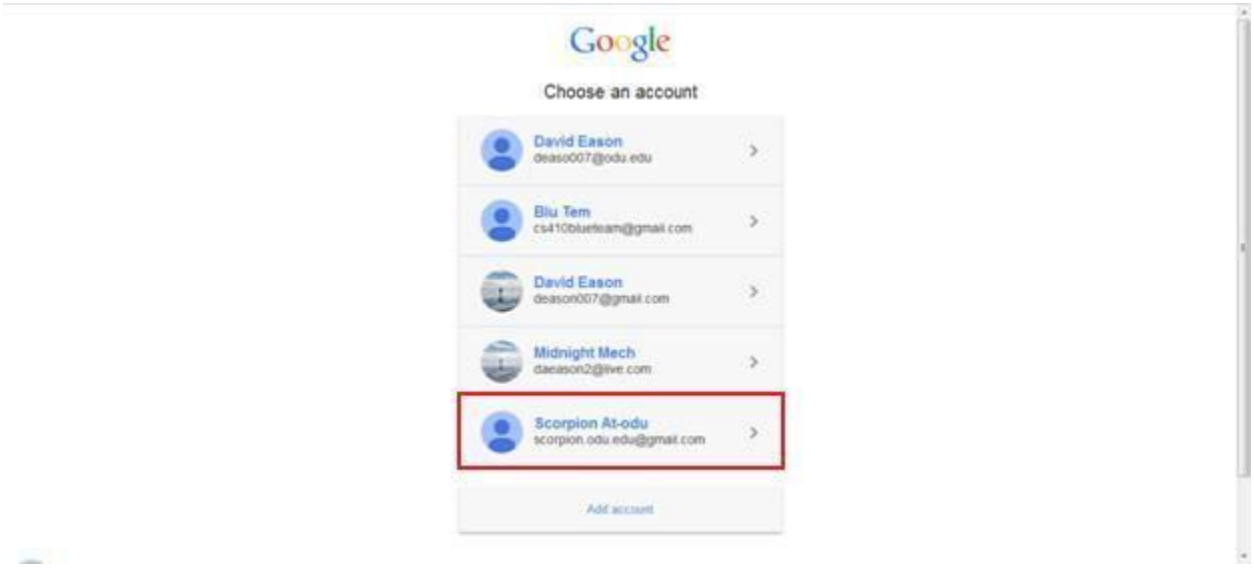
1) Click the Login link at the top right corner of the homepage

Sign In
OLD DOMINION
UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
Clear Form
Submit Sequence
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

2) Click on the big red button that reads, “Login With Google”



3) On the Google Account Chooser page, login with the Administrator Gmail account, "Scorpion.odu.edu@gmail.com", or an account that was created by the administrator



4) Once selected, the browser will redirect to the homepage. Now click the link at the top right corner, "User Data"

Welcome scorpion.odu.edu@gmail.com
Profile | History | User Data | Analytics | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
scorpion.odu.edu@gmail.com
Input your target sequence in fasta format, a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

(This area was intentionally left blank)

5) The browser will redirect to the User Data webpage. A table displays all user data available including:
    a) Email Address
    b) Number of Submissions
    c) Name
    d) Location
    e) Phone Number
    f) Type of user (Administrator or Standard)

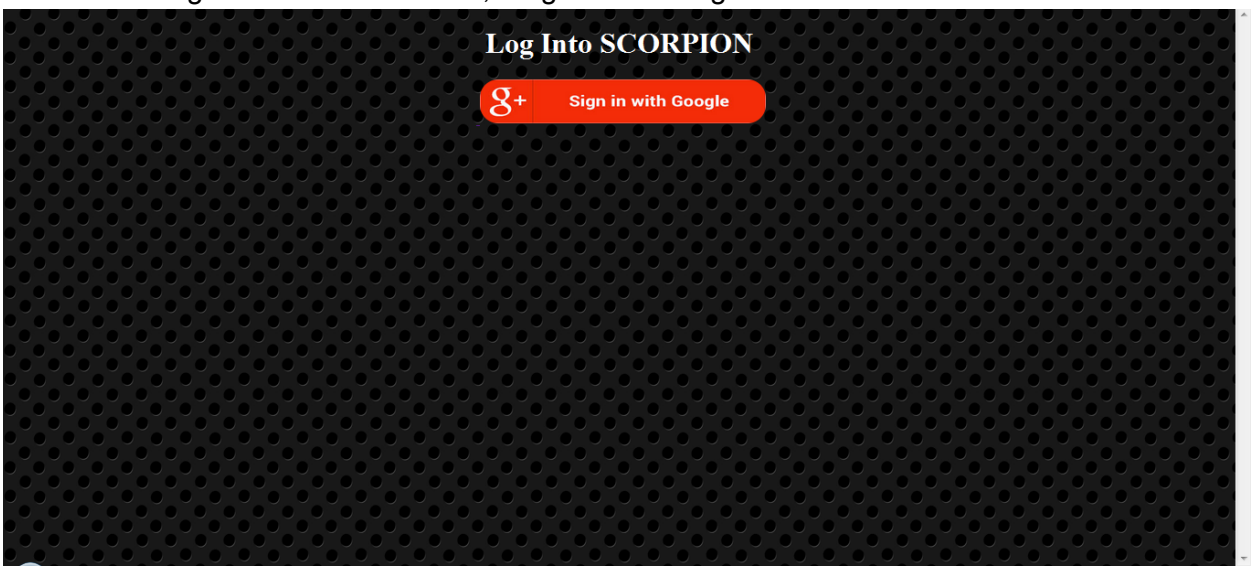
The table may be sorted on preference by clicking the corresponding column header and specific items may be searched for by entering text into the search box.

Welcome scorpion.odu.edu@gmail.com
Profile | History | User Data | Analytics | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states, Secondary Structure Prediction
News
Home | About | Contact
Show 10 entries
Search:
Email
# of Submissions
Name
Location
Phone
Admin
cs410blueteam@gmail.com 0 Blue Admin Norfolk, VA Yes
deaso007@odu.edu 0 No
georgejetson@gmail.com 0 George Jetson Up in the air, USA 1234 No
jackmuratore@gmail.com 1 Jack Muratore Lynchburg, Va 732-589-1638 No
scorpion.odu.edu@gmail.com 0 Yes
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network

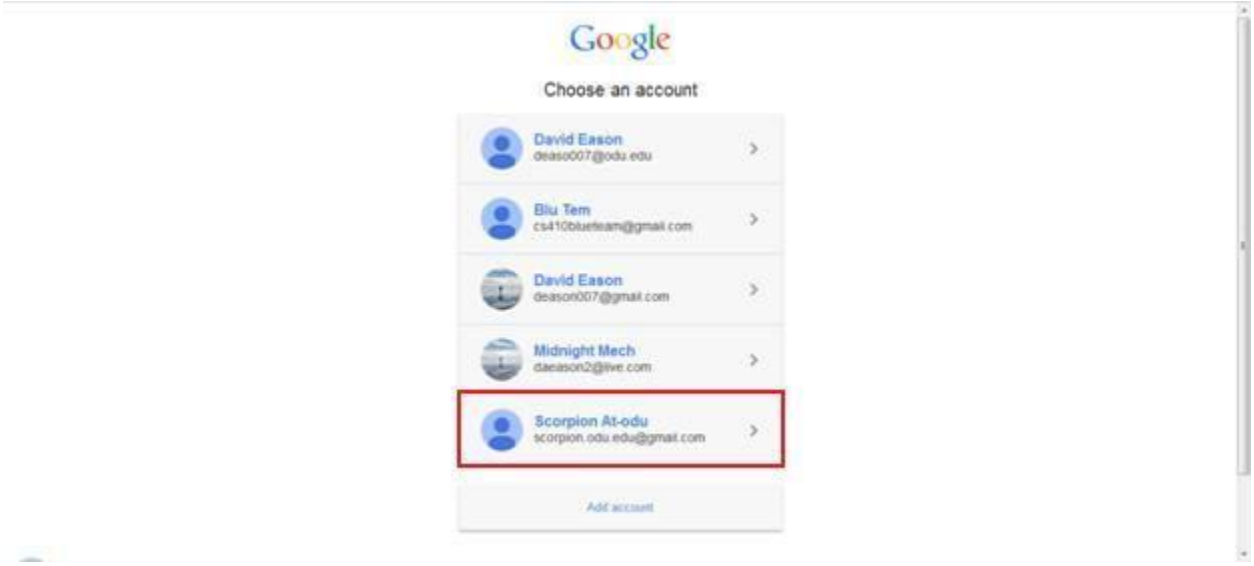
Google analytics

1) Click the Login link at the top right corner of the homepage

6) Click on the big red button that reads, “Login With Google”



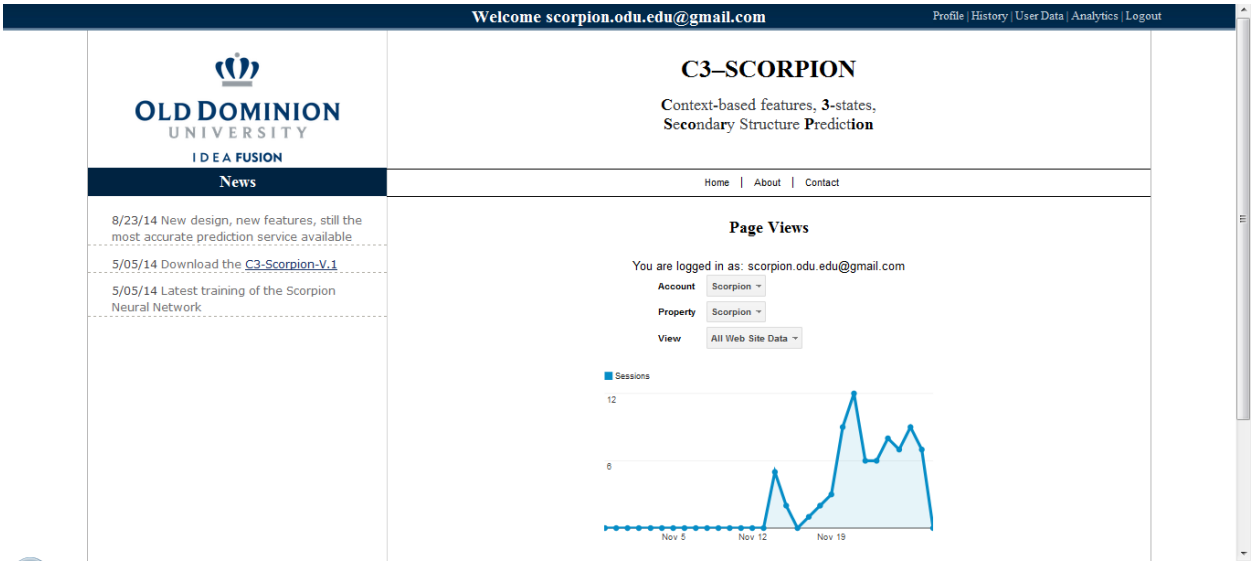
7) On the Google Account Chooser page, login with the Administrator Gmail account, “Scorpion.odu.edu@gmail.com”, or an account that was created by the administrator



8) Once selected, the browser will redirect to the homepage. Now click the link at the top corner that reads, “Analytics”

Welcome scorpion.odu.edu@gmail.com
Profile | History | User Data | Analytics | Logout
OLD DOMINION UNIVERSITY
IDEA FUSION
C3–SCORPION
Context-based features, 3-states,
Secondary Structure Prediction
News
Home | About | Contact
Instructions
8/23/14 New design, new features, still the most accurate prediction service available
5/05/14 Download the C3-Scorpion-V.1
5/05/14 Latest training of the Scorpion Neural Network
Query Title
Amino Acid Sequence*
Email Address*
(Results will be sent here)
scorpion.odu.edu@gmail.com
Clear Form
Submit Sequence
Input your target sequence in fasta format; a protein name tag is optional and will allow us to search our database to retrieve results directly
Enter your e-mail address
Submit the form
When your results have been predicted, a webpage link to your results will be emailed to you
Follow the link to display the results

9) The Browser will be redirected to the Analytics webpage. Loading may take up to 10 seconds to get all of the page view data



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8. Troubleshooting

This section details various issues and how to solve them

Logins (David)

1) One issue that occurs is after logging in or logging out, the user is presented with a blank screen. To solve this:
    a) Go to Google.com
    b) In the top right corner, click the current logged on profile
    c) Click “Log out”
    d) Close all browsers, and try logging in again

Analytics (David)

1) If the user is not presented with a graphical chart on the Analytics webpage or the page is blank:
    a) Click the Logout link at the top right corner of the webpage
    b) Go to Google.com
    c) In the top right corner, click the current logged on profile
    d) Click “Log out”
    e) Close all browsers
    f) Navigate back to the Scorpion Homepage
    g) Click the Login link at the top right corner of the webpage
    h) Log in with an administrator account
2) If the analytics page presents an orange button in place of the graphical chart
    a) Click the orange button
    b) Click “Allow all”
    c) If the chart still does not appear, follow the steps in section 1 of the Analytics topic within this Troubleshooting library

User Data/Information (David)

1) If the user is not presented with a table of user information on the User Data webpage or the page is blank:
    d) Click the Logout link at the top right corner of the webpage
    e) Go to Google.com
    f) In the top right corner, click the current logged on profile
    g) Click “Log out”
    h) Close all browsers
    i) Navigate back to the Scorpion Homepage
    j) Click the Login link at the top right corner of the webpage
    k) Log in with an administrator account

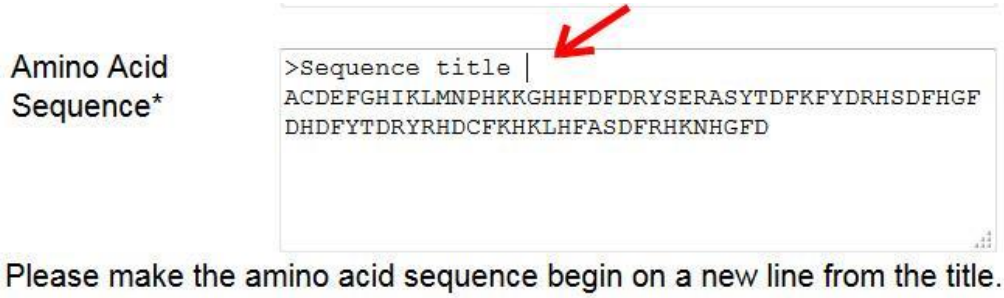
Submitting a protein sequence (Jasmine)

There are several errors message you can receive while submitting a protein sequence. The following solutions can be used to fix each corresponding error:

1. Error: “Please enter an amino acid sequence.”
    The amino acid sequence field is required.
    a. Fix: Enter an amino acid sequence into the amino acid sequence field.
2. Error: “Amino acid sequence must be at least 40 residues.”

a. Fix: Enter an amino acid sequence into the amino acid sequence field that is at least 40 characters in length.

3. Error: “Please make the amino acid sequence begin on a new line from the title.”
   There must be a newline character between your sequence title and your sequence. It may appear as though your sequence is on a newline because of word-wrapping, however, the case may be that you only have a single “space” between your sequence title and sequence.
   a. Fix:
      1. Position your cursor at the end of your sequence title
      2. Hit the “Enter” key on your keyboard.


Amino Acid Sequence*
>Sequence title
ACDEFGHIKLMNPHKKGHHFDFDRYSERASYTDFKFYDRHSDFHGF
DHDFYTDRYRHDCFKHKLHFASDFRHKNHGFD
Please make the amino acid sequence begin on a new line from the title.

4. Error: “Please enter an email address.”
   The email address field is required.
   a. Fix: Enter a valid email address into the email address field.
5. Error: “Please enter a valid email address.”
   The provided email address must be a valid address
   a. Fix: Enter a valid email address into the email address field.

STING API (Stanley)

1) Deploying and hosting the STING API. This can be used on any system runtime that supports PHP but accessible from all languages thatcan communicate over HTTP.
   a) Check Dependencies
      i) PHP 5.4+
      ii) SQLite3
      iii) Composer Package Manager
      iv) Apache
2) Check Tests
   a) Run PHP Unit to see if test coverage still exists
   b) Navigate to the root of the project
   c) After the application is installed run the command “vendor/bin/phpunit”
3) Error Objects
   a) Missing parameters: All requests must have
      i) name: the monicker that identifies the job to the submitter
      ii) title: the genetic string of the sequence
      iii) sequence: the secondary protein string
      iv) sanitization: the status of requiring santization
      v) email: the email where the resulting prediction can be foudn

b) Sanitization
    i) Requests that fall into these errors will be thrown and suggested for sanitization
        (1) Special characters
        (2) White space
        (3) Upcase sequences
    ii) Replaces characters to make it fall under FASTA compliance for predictable sequences.

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9. Sting API (Stanley)

This section details how to utilize the STING REST interface to interact with Scorpion.
Example can be issued over curl

HOSTING

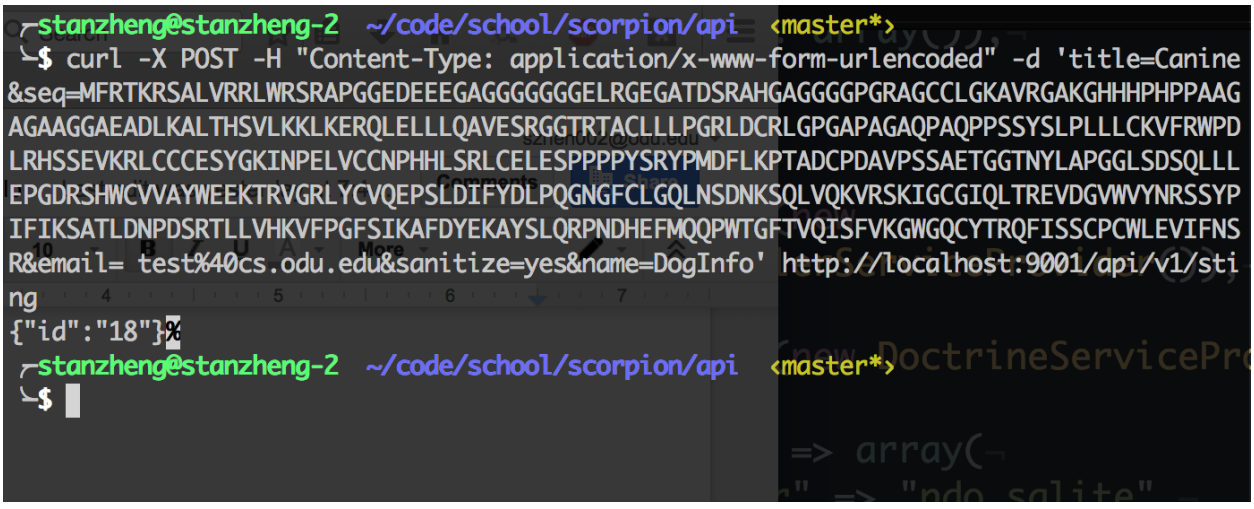
The service can be hosted using any service that can run a PHP run time.

- If over PHP 5.4, can run using language web server
- Running on APACHE use the .htaccess resource file

Test using CURL

POST (insert)

```
curl -X POST -H "Content-Type: application/x-www-form-urlencoded" -d
'title=Canine&seq=MFRTKRSALVRRLWRSRAPGGEDEEEGAGGGGGGGELRGEGATDSR
AHGAGGGGPGRAGCCLGKAVRGAKGHHHPHPPAAGAGAAGGAEADLKALTHSVLKKLKER
QLELLLQAVESRGGTRTACLLLPGRLDCRLGPGAPAGAQPAQPPSSYSLPLLLCKVFRWPDLR
HSSEVKRLCCCESYGKINPELVCCNPHHLSRLCELESPPPPYSRYPMDFLKPTADCPDAVPSS
AETGGTNYLAPGGLSDSQLLLEPGDRSHWCVVAYWEEKTRVGRLYCVQEPSLDIFYDLPQGN
GFCLGQLNSDNKSQLVQKVRSKIGCGIQLTREVDGVWVYNRSSYPIFIKSATLDNPDSRTLL
VHKVFPGFSIKAFDYEKAYSLQRPNDHEFMQQPWTGFTVQISFVKGWGQCYTRQFISSCPC
WLEVIFNSR&email= test%40cs.odu.edu&sanitize=no&name=DogInfo'
http://localhost:9001/api/v1/sting
```



POST (insert) sanitization

Sanitization flag is available to clean up special characters or invalid sequences caused from errors in translation of protein sequence.

```
curl -X POST -H "Content-Type: application/x-www-form-urlencoded" -d
'title=Canine&seq=MFRTKRSAL
VRRLWRSRAPGGEDEEEG%20%25GGGGELRGEGATDSRAHGAGGGGPGRAGCCLGKAV
RGAKGHHHPHPPAAGAGAAGGAEADLKALTHSVLKKLKERQLELLLQAVESRGGTRTACLLL
PGRLDCRLGPGAPAGAQPAQPPSSYSLPLLLCKVFRWPDLRHSSEVKRLCCCESYGKINPELV
CCNPHHLSRLCELESPPPPYSRYPMDFLKPTADCPDAVPSSAETGGTNYLAPGGLSDSQLLLE
PGDRSHWCVVAYWEEKTRVGRLYCVQEPSLDIFYDLPQGNGFCLGQLNSDNKSQLVQKVRS
KIGCGIQLTREVDGVWVYNRSSYPIFIKSATLDNPDSRTLLVHKVFPGFSIKAFDYEKAYSLQ
RPNDHEFMQQPWTGFTVQISFVKGWGQCYTRQFISSCPCWLEVIFNSR&email=
test%40cs.odu.edu&sanitize=yes&name=DogInfo'
http://localhost:9001/api/v1/sting
```

```
┌─stanzheng@stanzheng-2  ~/code/school/scorpion/api  <master*>
└─$  curl http://localhost:9001/api/v1/sting/20 -H 'Content-Ty
pe: application/json' -w "\n"
[{"id":"20","seq":"MFRTKRSALVRRLWRSRAPGGEDEEEGGGGGELRGEGATDSRAH
GAGGGGPGRAGCCLGKAVRGAKGHHHPHPPAAGAGAAGGAEADLKALTHSVLKKLKERQLELL
LQAVESRGGTRTACLLLPGRLDCRLGPGAPAGAQPAQPPSSYSLPLLLCKVFRWPDLRHSSEV
KRLCCCESYGKINPELVCCNPHHLSRLCELESPPPPYSRYPMDFLKPTADCPDAVPSSAETGG
TNYLAPGGLSDSQLLLEPGDRSHWCVVAYWEEKTRVGRLYCVQEPSLDIFYDLPQGNGFCLGQ
LNSDNKSQLVQKVRSKIGCGIQLTREVDGVWVYNRSSYPIFIKSATLDNPDSRTLLVHKVFPG
FSIKAFDYEKAYSLQRPNDHEFMQQPWTGFTVQISFVKGWGQCYTRQFISSCPCWLEVIFNSR
","name":"DogInfo","title":"Canine","email":" test@cs.odu.edu",
"time":"2014-12-02 00:26:44","pred_status":"1","sanitize":"yes"
,"pred_weights":"765568899979658875987777559887659895586856668 7
8855597966998768887898867985687755686769578768678567759995865876
676656555857957867855967769557888958586776968576786858689555666
789867799958578597975876756766956756958785696995985689859596555
565986779975599775687966685676887778765765689865987858758587995
759568787786568769586555786995896765898789855756777978878985869
777856686758897685765566995888886666775566665565558678585969 8",
```

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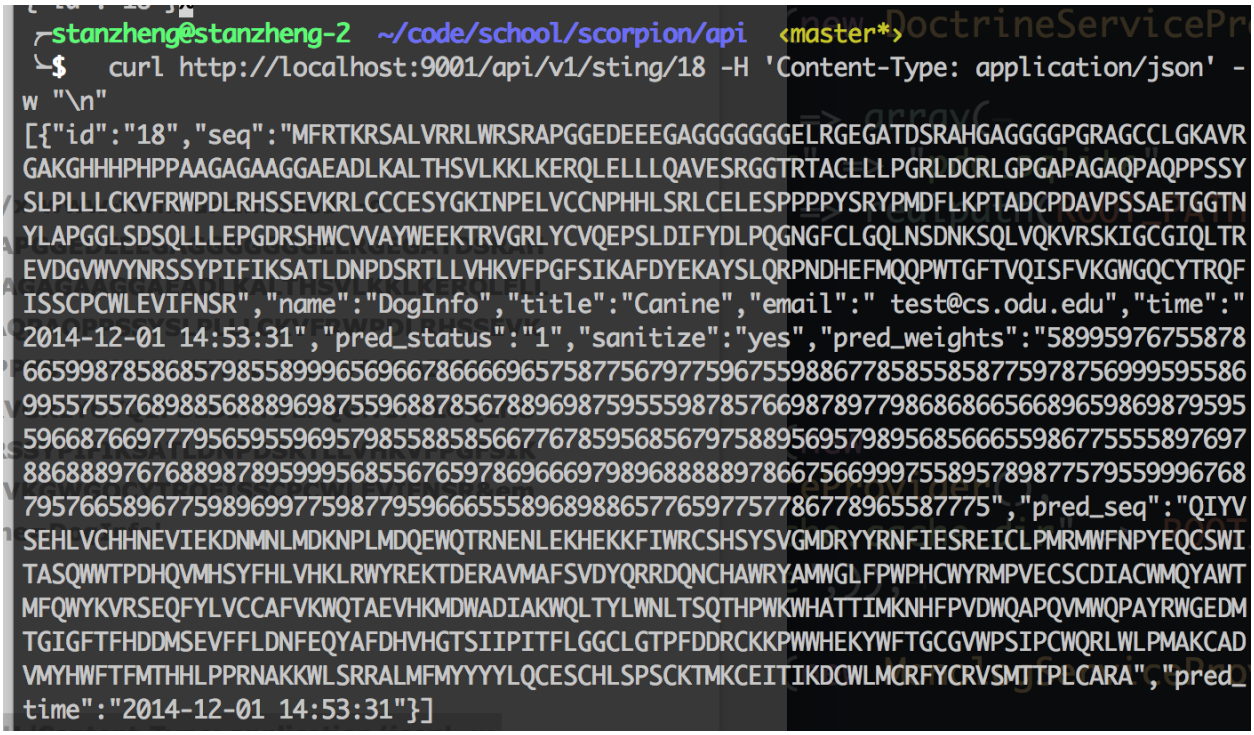
GET
Get one using the unique job ID stored for the sequence.

```
curl http://localhost:9001/api/v1/sting/1 -H 'Content-Type: application/json' -w "\n"
```

GET
Get all existing outstanding jobs in the STING API system

```
curl http://localhost:9001/api/v1/sting -H 'Content-Type: application/json' -w "\n"
```



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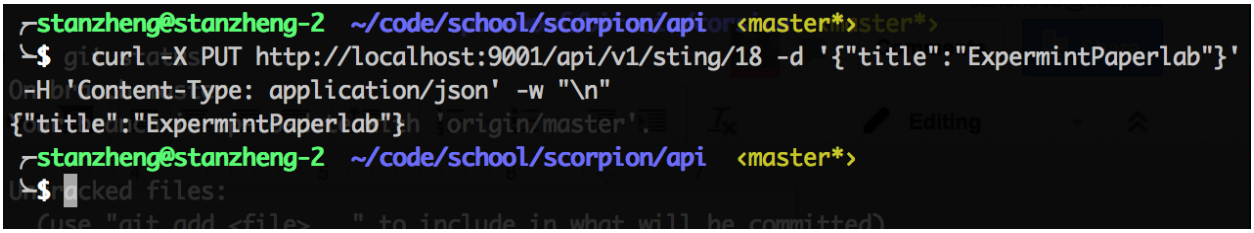
PUT (update)
updating a specific property of a job. example updating the title of the job for person archiving at a later time is a use case.

```
curl -X PUT http://localhost:9001/api/v1/sting/1 -d
'{"title":"ExpermintPaperlab"}' -H 'Content-Type: application/json' -w "\n"
```



DELETE
Remove a job from the system, calling the ID stored from the submission the client can remove jobs from the STING API.

```
curl -X DELETE http://localhost:9001/api/v1/sting/18 -H 'Content-Type:
application/json' -w "\n"
```

See attached link for examples to interact with STING REST for

ACCESS HTTP REST
See examples in /examples for supported methods.
- CURL
- RUBY
- PHP
- PYTHON
- NODE